

Abstract of the Disclosure (Revised)

An antenna system and method for measuring azimuth and elevation angles of an active, signal sending radiosonde. The system includes a first passive antenna group having at least two antenna arrays, the direction pattern of which is wide at least in elevation plane for measuring azimuth angle based on the phase differences between the antenna arrays, a second passive antenna group having at least two antenna arrays, the direction pattern of which is wide at least in elevation plane for measuring the elevation angle based on the phase differences between the antenna arrays and the rotational position of the antenna field, and at least one third antenna having high gain for receiving the telemetry signal, the direction pattern of which element is narrow in azimuth plane and wide in elevation plane. The first and second antenna groups form a solid antenna field which is fixedly tilted in a predetermined elevation position.